

US009439636B2

# (12) United States Patent Stopek et al.

(10) Patent No.: US 9,439,636 B2

(45) **Date of Patent:** 

Sep. 13, 2016

## (54) WOUND PLUGS

(71) Applicant: Covidien LP, Mansfield, MA (US)

(72) Inventors: **Joshua Stopek**, Minneapolis, MN (US); **Gregory Fischvogt**, Hamden, CT (US); **Timothy Sargeant**, Guilford, CT (US)

(73) Assignee: Covidien LP, Mansfield, MA (US)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35

U.S.C. 154(b) by 7 days.

(21) Appl. No.: 14/486,349

(22) Filed: Sep. 15, 2014

(65) Prior Publication Data

US 2015/0005815 A1 Jan. 1, 2015

## Related U.S. Application Data

- (62) Division of application No. 12/914,382, filed on Oct. 28, 2010, now Pat. No. 8,858,592.
- (60) Provisional application No. 61/263,959, filed on Nov. 24, 2009.
- (51) Int. Cl. *A61B 17/08* (2006.01) *A61B 17/00* (2006.01)
- (52) **U.S. CI.** CPC .. **A61B 17/0057** (2013.01); **A61B 2017/00004** (2013.01); **A61B 2017/00637** (2013.01)
- (58) **Field of Classification Search**CPC ....... A61B 17/0057; A61B 2017/00637;
  A61B 2017/00004

See application file for complete search history.

# (56) References Cited

#### U.S. PATENT DOCUMENTS

5,116,357	Α		5/1992	Eberbach		
5,147,374	A		9/1992	Fernandez		
5,162,430	Α		11/1992	Rhee et al.		
5,192,301	Α		3/1993	Kamiya et al.		
5,254,105	Α		10/1993	Haaga		
5,258,000	Α		11/1993	Gianturco		
5,324,775	A		6/1994	Rhee et al.		
5,326,350	Α		7/1994	Li		
5,334,216	Α		8/1994	Vidal et al.		
5,370,660	Α		12/1994	Weinstein et al.		
5,410,016	Α		4/1995	Hubbell et al.		
5,439,469	Α		8/1995	Heaven et al.		
5,458,570	A	*	10/1995	May, Jr 604/500		
5,478,352	A		12/1995	Fowler		

## (Continued)

#### FOREIGN PATENT DOCUMENTS

EP EP	2 143 737 A1 1/2010 2 196 193 A1 6/2010	
	(Continued)	
	OTHER PUBLICATION	NS

International Search Report issued in Application EP 11250562.3 mailed Dec. 8, 2011.

(Continued)

Primary Examiner — Gregory Anderson Assistant Examiner — Son Dang

#### (57) ABSTRACT

A medical device for wound closure, including an elongate body with a plurality of portions and a perforated region disposed therebetween. The medical device may also include an alignment member. The wound plug may also have a first position for insertion, the portions being mechanically coupled to each other, and a second position where one or more of the portions are spatially separated.

## 18 Claims, 4 Drawing Sheets

